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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/895,094 07/16/97 PARULSKI K 69998DMW

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LM02/0915

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EXAMINER

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FERGUSON, E
ART UNIT PAPER NUMBER

2712
DATE MAILED:

09/15/99

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/895,094

Applicant(s)

Kenneth A. Parulski

Examiner

Eric Ferguson

Group Art Unit

2712



☒ Responsive to communication(s) filed on Jul 16, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-6, 19-21, and 23-31 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-6, 19-21, 23, and 25-31 is/are rejected.

☒ Claim(s) 24 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The terms "relatively more complex, and relatively more simple" in claims 1, 6 and 26 are relative terms which renders the claim indefinite. The term "relatively more complex, and relatively more simple" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Objections

3. Claim 23 is objected to because of the following informalities: it is dependent on a canceled claim. Appropriate correction is required.

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Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 6, 19, 20, 21, 23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Parulski et al. (5,440,343).

A. Considering claims 1 and 2, Parulski et al. discloses 1) the claimed still image mode as lines 10-31 in column 2 and lines 27-34 in column 3, and 2) the claimed motion preview mode as lines 10-31 in column 2 and lines 16-27 in column 2. Note, Parulski et al. discloses that the invention is applicable to camcorders on lines 60-61 in column 7. Viewfinders are standard features on camcorders. Parulski et al. also discloses that a still mode can be selected from a motion mode on lines 27-32 in column 3. Hence, the ability to preview motion pictures before the initiation of the still mode is an inherent feature of Parulski et al.'s image sensing apparatus.

B. Considering claims 6, and 26, Parulski et al. discloses the claimed software implementation as element 14 in figure 1 and lines 18-22 in column 3, and the claimed application specific integrated circuit as lines 46-68 in column 6. Note, the gates of Parulski et al.'s circuit

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perform the specific function of summing, hence making it an application specific integrated circuit.

C. Considering claims 19 and 21, Parulski et al. discloses 1) the claimed image sensing means as lines 67-68 in column 3 and element 12 in figure 1, 2) the claimed still image processor as element 15 in figure 1, lines 10-31 in column 2, and lines 27-34 in column 3, 3) the motion preview processor as element 15 in figure 1, lines 10-31 in column 2, and lines 16-27 in column 2, 4) the claimed timing generator as lines 22-59 in column 5. Note, the analog-to-digital converter is an inherent feature of the invention, because Parulski et al. discloses the recording of digital signals in 22-27 in column 3.

D. Considering claims 20 and 23, Parulski et al. discloses the claimed higher clock frequency in the motion preview mode than in the still modes as lines 7-9 in column 2.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3 and 5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al. (5,440,343).

A. Considering claim 3, Parulski et al. discloses that the NTSC (motion preview mode) image is obtained by discarding pixels in lines 46-68 in column 6.

B. Parulski does not explicitly disclose a smaller array of color display pixels.

C. It would have been obvious to person of ordinary skill in the art at the time of the invention that if the NTSC image is obtained by discarding pixels, and the invention is applicable to camcorders, which typically have viewfinders, then less pixels would be displayed than would be sensed.

D. Considering claim 5, Official Notice is taken that using an LCD as the display for a digital camera is known in the art.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al. (5,440,343) in view of Hickman (5,452,017).

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A. Considering claim 4, Parulski et al. does not explicitly disclose the claimed saturation modification.

B. Hickman discloses the claimed saturation modification as lines 38-59 in column 7.

C. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the saturation of the color image pixels, because color saturation processing is well known in the art.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al. (5,440,343) in view of Parulski et al. (5,493,335).

A. Considering claim 25, Parulski et al. (5,440') does not explicitly disclose the claimed capture of burst images.

B. Parulski et al. (5,493') discloses the claimed capture of burst images as lines 60-67 in column 6.

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C. It would have been obvious to a person of ordinary skill in the art at the time of the invention for Parulski et al.'s image sensor to capture burst of images, because capturing burst of images was well known in the art.

10. Claims 27, 28, 29, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al. (5,440,343) in view of Martinez et al. (5,226,114).

A. Considering claim 27, Parulski et al. discloses 1) the claimed image processing motion preview modes as lines 15-22 in column 2, and lines 47-51 in column 3, 2) an image processing still image mode as element 15 in figure 1, lines 10-31 in column 2, and lines 27-34 in column 3.

B. Parulski et al. does not explicitly discloses the claimed increase of pixel values in the image processing still image mode .

C. Martinez et al. discloses a process that increases the amount of pixels by interpolating a second field from a first field as lines 20-45 in column 1.

D. The motivation for combining the image sensor of Parulski et al. with the interpolation process of Martinez et al. would have been to improve resolution when a fast moving subject is

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photographed by compensating for skipped fields. Martinez et al. teaches this on lines 20-45 in column 1.

E. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention, that combining the image sensor of Parulski et al. with the interpolation process of Martinez et al. would improve resolution when a fast moving subject is photographed by compensating for skipped fields.

F. Considering claim 28, Parulski et al. discloses 1) the claimed still image mode as lines 10-31 in column 2 and lines 27-34 in column 3, and 2) the claimed motion preview mode as lines 10-31 in column 2 and lines 16-27 in column 2. Note, Parulski et al. discloses that the invention is applicable to camcorders on lines 60-61 in column 7. Viewfinders are standard features on camcorders. Parulski et al. also discloses that a still mode can be selected from a motion mode on lines 27-32 in column 3. Hence, the ability to preview motion pictures before the initiation of the still mode is an inherent feature of Parulski et al's image sensing apparatus.

G. Considering claim 29, Parulski et al. does not explicitly disclose the claimed interpolation process.

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H. Martinez et al. discloses a process that increases the amount of pixels by interpolating a second field from a first field as lines 20-45 in column 1.

I. The motivation for combining the image sensor of Parulski et al. with the interpolation process of Martinez et al. would have been to improve resolution when a fast moving subject is photographed by compensating for skipped fields. Martinez et al. teaches this on lines 20-45 in column 1.

J. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention, that combining the image sensor of Parulski et al. with the interpolation process of Martinez et al. would improve resolution when a fast moving subject is photographed by compensating for skipped fields.

K. Considering claim 30, Parulski et al. discloses that the NTSC (motion preview mode) image is obtained by discarding pixels in lines 46-68 in column 6.

L. Parulski does not explicitly disclose a smaller array of color display pixels.

M. It would have been obvious to person of ordinary skill in the art at the time of the invention that if the NTSC image is obtained by discarding pixels, and the invention is applicable

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to camcorders, which typically have viewfinders, then less pixels would be displayed than would be sensed.

N . Considering claim 31, Parulski et al. discloses the claimed software implementation as element 14 in figure 1 and lines 18-22 in column 3, and the claimed application specific integrated circuit as lines 46-68 in column 6. Note, the gates of Parulski et al's circuit perform the specific function of summing, hence making it an application specific integrated circuit.

Allowable Subject Matter

11. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or reasonably suggest an image sensor with two horizontal readouts in which still image mode uses one horizontal register, and motion image mode uses both registers.

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Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Ferguson whose telephone number is (703) 305 - 0150. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 4:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305 - 3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308 - 9052 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305 - 3900.

Eric Ferguson

E.F.

September 11, 1998



TUAN HO
PRIMARY EXAMINER